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CASE

OF

EXTIRPATION OF A BILOCULAR OVARIAN CYST

BY THE

LARGE PERITONEAL SECTION.

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DECEMBER 13th, 1843, I was requested by Dr. Adam Shellar, of Mountjoy, to visit Mrs. S., of Chieques, for the purpose of performing paracentesis abdominis in "dropsy of the abdomen." A mere glance at the abdomen induced me to doubt the existence of peritoneal dropsy, and upon a close examination I was fully satisfied that there was encysted or ovarian dropsy. As Dr. Nathaniel Watson, one of the attending physicians, was not present, and as the case would probably prove to be of more importance than had been anticipated, I proposed to postpone the operation until the 15th, in order that both the medical gentlemen might be present at the time of deciding upon the character of the disease by tapping.

Accordingly, upon the 15th, I again visited the patient, and received the following history from her:

She was 61 years old on the 26th of last November, never had had any children, did not believe she had ever conceived, had menstruated regularly in early life, and passed through her menstrual period at the age of 40 years, without any untoward symptoms. For four or five years she felt a fulness in the lower part of the abdomen, which has gradually increased until the present time. Her attention had first been called to the enlargement of the abdomen by a soreness there, which made it painful when she came suddenly against any object. How long she may have been swelled before this she does not know, but believes not long. About this period, and since, she frequently complained of pain in her right side, and would suddenly press with her open hand just above the hip bone. Before noticing the swelling she became very much constipated, and has continued so ever since, having recourse to small doses of Epsom salts as a daily laxa-

tive. The process of defecation is difficult, and accompanied with the sensation of a mechanical obstruction. The faeces, however, are round, but contracted in size. From the earliest period of constipation there has always been, also, a more or less frequent desire to pass urine. About the same time her *left* leg began to swell, the swelling having continued ever since, and the *right* thigh above, and in front, has been affected with neuralgic pains. For years she has been troubled with occasional slight attacks of hepatic derangement, which were readily relieved by mild mercurials. For many years also she had a constant herpetic eruption on her *left* leg, which became better about the time the dropsy commenced, although a scaly condition of the skin has continued. She was peculiarly susceptible to the operation of medicine, and she possessed a constitutional idiosyncrasy to the action of mercury, becoming salivated by a single application of a mercurial solution to the skin. She can lie better upon her *right* side than upon the *left*. One day, in the early part of November last, in a certain position of her body, she felt something roll or fluctuate in the abdomen, communicating the sensation of a fluid. Frequently during exercise her respiration became slightly accelerated, only however for a short time. This disturbance of the respiration she attributed to flatulency, to which she had been accustomed for years. Occasionally she felt a slight pain in the region of the uterus. Her appetite in general was good, but she required the observance of great care in diet, using the mildest nourishment for several years.

The following notes, which were taken at the bedside of the patient, were dictated to Dr. Shellar as the examination was being made by myself.

Pulse 88,* soft, open and full; skin soft and pleasant to the touch; temperature natural and uniform; tongue slightly furred, whitish, soft, moist, and spreading, the follicles at its root enlarged; ptyalism, caused by a few doses of mercurials during the last week.

The patient lying on her back. The tumour of the abdomen is very prominent and nearly globular. Its greatest diameter extends from the left hypochondrium to the right iliac region. Below it is most prominent upon the right side, above it is most prominent upon the left, elevating considerably the cartilages of the ribs on that side. The lower edge of the thorax forms the upper boundary of the tumour, and is elevated by the latter. The tumour is softest upon the right side, most resisting upon the left. The sound, on percussion, is flat over the whole anterior face of the abdomen, even in the epigastrum and hypogastrium. By the hand a pulsation can be felt throughout the whole body of the tumour; by the stethoscope the impulse and sound of the aorta can be recognized over the whole tumour, but most strongly over the left side. The integuments of the abdomen are smooth and natural in appearance. The size is rather larger than at the full period of pregnancy; there is greater width, more prominence above the umbilicus, and rather more flatness in the most anterior part of the tumour.

The patient lying upon her left side. The change of position does not alter the appearance and contour of the tumour. The sound is flat in the whole lumbar region of the right side; tympanitic in the right hypochondriac region. Fluctuation in the right side is tolerably distinct.

The patient lying on her right side. There is no change in the tumour. The elevation of the left side when lying on the right, is greater than that of the right side when lying on the left. Tympanitic sound in the left lumbar

* On the 13th the pulse had been 80; it probably was now excited by the idea of paracentesis.

region merely distinguishable, but distinct in the left hypochondriac region. Fluctuation perceptible on the left side, but not so distinctly as on the right.

Examination per vaginam. The vagina is considerably shortened; a tumour can be felt through its posterior wall, having an extremely tender spot high upon its anterior face when pressed upon with the point of the finger backwards. The supposed *cervix uteri* is thrown forward behind the *symphysis pubis*, puffy, tumefied, but free from tenderness; the *os tincæ* is not evident.

Examination per anum. As soon as the finger enters the sphincter it strikes against a tumour, which is felt through the anterior walls of the rectum, and appears to be globular and very slightly uneven. It is movable and has a sarcomatous feel.

Previously to paracentesis the abdomen was again examined in reference to a proper point to introduce the trocar, the patient being on her back. By pressure over the abdomen a resisting body could be discovered parallel to the *linea alba*, about an inch or an inch and a half to the left of it, and along its greatest length. In order to detect this it was necessary to make very deep pressure, and it felt like a solid tumour dipping down under the *linea alba* towards the right side. Over the right side there was distinct fluctuation; over the left and also across the abdomen the fluctuation was indistinct. In consequence of these circumstances a point, about two inches to the right of the mesian line, and midway between the umbilicus and pubis, was selected for tapping. The trocar entered without using much force, and seven pints of lemon-coloured, very *clear transparent* fluid, of the consistence of serum, were drawn out. The abdominal tumour, however, only diminished on the right side, leaving the intumescence of the left side equally as great as it had been before tapping. Now, upon examining the abdomen again, the tumour, still existing within the left side, can be traced across the *linea alba* projecting deeply into the right side to the extent of three or four inches across the mesian line, having upon its deep surface loose longitudinal ridges, supposed to be folds of the flaccid sac just emptied. Fluctuation of the left side is now much more distinct than it was before, extending even into the deep portion of the tumour upon the right side. The aortic impulse is not so evident as before. This tumour evidently is a sac, and the appearance of solidity along the left of the *linea alba*, previous to paracentesis, was owing to the right sac having overlaid the left sac to a point beyond the *linea alba*, perhaps about two inches or more, thus making a superficial layer of fluid over the body of the left sac, through which the latter, upon deep pressure, simulated a deeply seated solid tumour. A ridge is also perceptible upon the left side of the *linea alba*, formed, no doubt, by the empty sac being folded upon the septum of the two sacs.

In consequence of this ridge a point, about two inches to the left of the *linea alba*, was selected for paracentesis of the left sac. It required more force to introduce the trocar than in the first instance. After making one plunge with the trocar, I had to follow it with another before it entered, and after it had entered the fluid did not flow freely through the canula; it appeared as if a portion of membrane was lying against the inner opening acting as a valve. From this circumstance I believe I must have first penetrated the overlapping layer of the right sac before entering the left, and that the left was only partially entered by the canula. However, upon introducing through the canula a flexible female catheter, which went in without opposition, a lemon-coloured slightly *cloudy* fluid, of the consistence of

serum, escaped through the catheter and around it through the canula. It amounted to ten pints. The whole extent of the abdomen was now diminished in size, and upon handling it an undulating vibrating motion was produced, as if some fluid still existed in the cavities, although all the usual efforts had been used to remove the whole of it.

The fluid from both cavities had an adhesive feel between the fingers, and when boiled was hardened like the white of an egg, so that the spoon containing it could be knocked, while inverted, against the table without displacing it. The fluid of the right sac, when shaken in a vial, formed a very adhesive bead, which continued a great length of time, while the fluid in the left sac formed a volatile bead, which disappeared directly. It did not affect litmus paper.

The urine, passed before tapping, was not coagulated by heat; it reddened litmus paper strongly.

Half an hour after tapping the pulse was 80, and in other respects the patient was the same as before.

After dinner, at 1 o'clock, when the patient had recovered from the fatigue of the operation, the examination was resumed, she lying upon her back. Longitudinal ridges can be felt upon the right side of the spine in the lumbar region. They are very movable, and supposed to be the folds of the flaccid cysts along the posterior part of the septum. The sound, on percussion, is distinctly tympanitic in the epigastric, right hypochondriac, umbilical and right lumbar regions, less so in the left hypochondrium, rather flat in the left lumbar, and flat over the whole lower part of the abdomen. Percussion over the ridges on the right side is painful when the pleximeter is accompanied with deep pressure.

The patient lying on her left side, and examination per vaginam. The part, previously supposed to be the enlarged cervix uteri, is now considered to be the uterus itself in a state of atrophy. It now occupies a position nearer to the sacrum than to the symphysis pubis, and more to the left side. A hard, globular tumour is felt through the posterior wall of the vagina; passing the finger under it I can elevate it above the brim of the pelvis, so as to feel it with my other hand placed over the *right* groin. While poising the tumour upon my finger in the vagina, and pressing with the fingers of my other hand into the pelvis from above the pubis, I can get beneath the tumour so as to elevate it considerably. The attachment to the *right* side of the uterus can be easily distinguished by pressing it between the finger within and the hand outside. This attachment is apparently very short, owing probably to the tumour being jammed against the uterus. No other attachments can be recognized. On the left side of the uterus nothing unusual is discovered in the pelvis.

Examination per anum. The finger again meets the tumour immediately within the sphincter lying against the anterior wall of the rectum. With the finger in this position, and the other hand on the right groin, the tumour can be played up and down, and seems less sensitive to pressure than before paracentesis. When the tumour is *in situ* the rectum is pressed flat against the curve of the sacrum. Hardened flat faeces are discovered in the rectum.

The tumour is considered to be an enlargement of the *right* ovary, associated with ovarian cysts. The *left* ovary is supposed to be free from disease.

Having now fully satisfied myself of the character of the disease, it became my duty to inform the patient of its probable results. I told her that the records of medical experience, as well as my own observation, fail

to render any assurance of the least prospect of cure by ordinary means—that ovarian dropsy is beyond the reach of medicine—that the disease, most likely, would never be less burthensome than it is now—that sooner or later it would cause death—that persons with the same disease had sometimes lived many years, but that at her age, and with her constitution and amount of suffering, this most probably would not be the case with her—that tapping would afford temporary relief, and that the oftener it was done the oftener and sooner it would have to be repeated, and thus by rapidly draining the system the sooner it would destroy life—that operations for the entire extirpation of the diseased mass had been performed, some terminating successfully, others fatally—that it was an operation of the greatest magnitude, and was not considered a legitimate or justifiable one by many eminent medical men—and that death might occur as its immediate or remote effects. On the other hand, I informed her, that an operation, although fraught with danger, afforded the only means of restoration to health—that, although her advanced age lessened, in some degree, the chances of recovery, yet I believed she had stamina of constitution sufficient to bear an operation—that I desired her and her friends to clearly understand me as not urging it upon her, or advising her to it—that after having duly and deliberately viewed the matter in all its aspects, she must decide for herself—that if she then determined to risk the operation rather than suffer her disease, I would undertake it, provided the services of a good nurse could be procured, and an experienced surgeon would share the responsibility of the case with me.

This statement having been made to my patient in the presence of her husband, her sister, and the attending physician, with a spirit of candour and frankness, I took my leave of her, promising to render my assistance in any way, and at any time it might be desired.

A letter from Dr. Shellar, dated December 22d, states that "Mrs. S. is doing quite well, her pulse ranging from 75 to 80, there being no febrile excitement. She sits up in bed, has not walked about, says she feels weak when on her feet. I measured her day after day, and so far find very little difference."

March 7th, 1844, I was requested to visit Mrs. S. in order to tap her again. She informed me that for six weeks after her first tapping she felt pretty comfortable, but the fluid began to accumulate soon after I left her. She now feels much worse and much more oppressed than she did before the first tapping. She has to make water frequently, and passes only a little at a time; has, however, no occasion to rise out of bed at night to urinate, and can pass water with greater ease standing than she can in a stooping posture. She still has to resort to laxatives to procure stool, and defecation is difficult, and accompanied by a sensation of obstruction. Any kind of exertion, as getting into bed, overcomes her, and produces difficulty of respiration. Her *left* leg is considerably oedematous, the other less so. She complains of a peculiar forcing and pressing uneasiness and pain in the left hypochondrium.

After giving this account of herself she told me that she had concluded to have the operation performed, if I believed her capable of living through it, as she suffered so much from the disease that she felt satisfied, if not relieved, she must soon sink under it. Her friends were surprised at this announcement, as she had never spoken of the operation to any one until that moment, and from her silence all had concluded that she had no idea of it, although she had arrived at that determination some time before. I therefore

conducted the examination with particular care, and reported, as I proceeded in it, to Dr. Shellar, who wrote it down as before.

Soon after my arrival to-day her pulse, while she was sitting, was 100.

The patient lying upon her back in bed. The abdominal tumour is larger than at the first examination; its contour the same, rather more prominence in the inferior right side. Admeasurement of the abdomen, taken obliquely around it from the left hypochondrium to the right lumbar region, is forty and a quarter inches: from the right hypochondrium to the left lumbar region, thirty-seven and a half inches; and transversely around the belly above the hips, thirty-eight inches. Percussion of the abdomen is accompanied by the same sounds as before. A ridge can be felt and seen along the left of the linea alba, supposed to be the septum of the sacs. There is less pain on pressure around the umbilicus than before the first tapping. The patient says that after she was tapped there were pain and tenderness on sneezing or coughing along the left side of the mesian line, extending above and below the umbilicus three or four inches. This has continued ever since.

Examination per vaginam. The cervix uteri is slightly tumefied and pushed down nearly in contact with the perineum, and to the left of the central line. The pelvis is nearly filled with a resisting substance, the greatest resistance being on the *right* side. A hard globular body can be felt through the posterior wall of the vagina, resting against the concavity and point of the os coccygis. The uterus is pretty firmly fixed in its position, it being scarcely movable. There is no particular tenderness observable in touching the uterus.

The patient being turned upon her left side it makes no change in the condition of things.

Examination per rectum. A hard globular body is felt as soon as the finger enters the internal sphincter, pressing against the anterior wall of the gut, and carrying the latter before it so as to convert that part of the rectum into an inverted sac for its reception: the tumour projects into the rectum as if it were a tumour of the gut itself arising from its internal face. The point of the finger passed up and around its left border to its anterior face, meets an exceedingly tender point, which causes the patient to flinch suddenly and exclaim that the pain flies to her very heart. The tumour presses the walls of the rectum together, occupying the hollow of the sacrum and coccyx, and pressing pretty firmly against them, and feels like sarcoma. High up on the posterior part of the tumour, along the track of the rectum, it is very tender to the touch. The patient says she suffers more from this examination than from the one before.

I now punctured the sac on the right side, and took from it twelve and a half pints of the same clear, straw-coloured, serum-like fluid as before, making the puncture through the old cicatrix. From the left sac, which was opened about an inch to the left of the old mark, in order to avoid the overlapping sac, I removed eight and a half pints of fluid similar to the above, it being much clearer than the fluid out of the same sac at its first tapping.

After paracentesis she measures around the hips transversely thirty and a quarter inches; above the hips and umbilicus twenty-six and a half inches. In examining the abdomen I can distinctly grasp the aorta and trace it to its bifurcation, can feel the projection of the os sacrum, and the folds of the flaccid cysts, and also a singular, lobulated, oblong tumour crossing the mesian line below the projection of the sacrum, deeply seated, and inclining most to the left side. This tumour is supposed to be either the aggregated folds of the sacs, the development of other cysts or indurated deposits in

in the septum, or hardened faeces in the intestines. It is quite movable, and can easily be grasped in the fingers.

Examination per vaginam. Employing the finger gently, and without much pressure, the parts within the vagina appear very much the same as before tapping. The uterus is quite movable, can be played up and down between the finger in the vagina and the hand above the pubis. The tumour, posterior to the vagina, can be dislodged and elevated to the *right* side against the hand over the *right iliac* region. While keeping the tumour thus poised upon the finger in the vagina, and endeavouring, with the other hand, to get under the tumour above the brim of the pelvis outside, a very tender spot is encountered, which produces the same intense suffering as in the examination per rectum, and, no doubt, is owing to the same part of the tumour being touched. The tumour is very movable, and can be played up and down within the pelvis. While the tumour is elevated the pelvis seems empty. I think the tumour has enlarged since the first examination. The posterior face of the uterus is slightly tender. No abnormal condition can be detected on the left side of the uterus.

The patient having been turned upon her left side, no change is produced in the relative position of things.

Examination per rectum. The attachment of the tumour to the uterus can be pretty distinctly traced with the finger, in the rectum, placed against the posterior wall of the broad ligament, and the fingers of the other hand outside pressed deeply into the pelvis against its anterior wall, thus grasping, between them, the broad ligament. The attachment, thus examined, is supposed to be more than an inch in extent, and the tumour is quite movable upon it.

From the whole examination, I think that the morbid attachments, if any, of the sacs and tumour are very slight.

After she had recovered from the exhaustion produced by the tapping, about one hour having elapsed, her pulse was 88.

I again reviewed the symptoms and history of the case, and felt confident that it was a case of encysted ovarian dropsy; that there was a tumour of the *right* ovary; that the cysts were connected with this tumour, though they possibly might originate in the *left* ovary; but that there was no evidence leading to the opinion that the *left* ovary was diseased.

As my patient had now determined upon the operation, I emphatically repeated to her and her friends all I had before told her, and in addition insisted upon having the privilege of selecting a consulting surgeon to examine the case, and also share in its responsibility, should he coincide with me in opinion. Accordingly, on the 9th of March I called my brother, Dr. John L. Atlee, into consultation, and visited Mrs. S. in company with him and Dr. Shellar.

In addition to the history already given, she stated that about four years ago, while riding on horseback with a basket of marketing before her upon her arm, she felt pain of the abdomen from the pressure of the basket. She became larger on the *right* side first, and had several times called the attention of her husband to the circumstance. Ever since the first tapping she can lie best upon the left side. After both tappings, before much fluid had accumulated, she could pass faeces without much difficulty. The oedema of the lower extremities, which existed before tapping, always diminished afterwards. Until recently there had not been much disturbance of the general health, although her constitution, for the last fifteen years, had been feeble.

To-day the abdomen is very much relaxed, and much more tender to

pressure than hitherto, particularly in the right iliac region. From the umbilicus downwards it seems to be occupied by a thick membrane or sac, which gives a dull sound on percussion, the upper border being occupied by a hard tumour about four inches long, and one and a half or two inches wide, lying transversely across the abdomen. This tumour is movable, and appears to have no connections with the uterus, and is the same tumour much increased in size, which I observed for the first time day before yesterday. Above this point, and also in the *right* iliac region, the sound is tympanitic. Her pulse is 78; the tongue is very slightly coated with a yellowish fur, but looks healthy; her appetite is good, and has been rather craving since last summer.

My brother, having made a careful examination *per vaginam et anum*, arrived precisely at the same conclusion that I had done: that the dropsy was encysted; that the cysts and tumours were developed in the *right* ovary; that the uterus was slightly *atrophied*, was distinct from the diseased ovary, except by its natural connections; that the pedicle was nearly or quite the normal length; and that no important adhesions existed. My brother fully concurred with me also in considering the operation a justifiable one, if the patient chose to have it performed. She then informed us that she had come to the conclusion herself of having the tumour extirpated; that she felt sensibly that her health had recently rapidly declined, and her sufferings were increased; that she had considered all the dangers of the operation, and desired to have it performed whenever we should deem it advisable. The opinion which I had previously given to her, was now jointly delivered again to her in the presence of her husband and sister, and the dangers of the operation fairly stated and fully understood by all the parties interested. It was then determined to wait until the cysts should become partially filled, so that the distended sacs might in some measure afford a guide to us in the operation. In the mean time she was ordered to take regular and moderate exercise, and to use nourishing light diet and mild laxatives.

March 23d, my brother and myself again visited Mrs. S., in company with Dr. Shellar. For several days after our last visit her health had not been good; she had had considerable fever, with great tenderness of the abdomen, and there was quite a hardness around the wound made by tapping, on the right side, from which, after removing the adhesive strip which covered it, a good deal of healthy pus was discharged, which afforded her great relief. After this the fever left her, the sore began to heal, and her health to improve, though the tumours continued tender, and the water rapidly accumulated in the sacs.

The abdomen is already quite prominent, and elevated to the distance of two inches above the umbilicus. The tumour which we felt in the inferior part of the abdomen, now occupies the left hypochondriac region anteriorly, and is tender upon pressure: it appears to be connected with the walls of the sacs, and to have become elevated as they became distended. The parietes of the abdomen can be pinched up from the sacs, and moved freely over their surface, even at the points where the sacs had been punctured, indicating freedom from attachments. The abscess spoken of above must have been confined to the walls of the abdomen. The patient's pulse is 90, and her health tolerably good.

We fixed upon Friday following, the 29th inst., for extirpating the diseased mass. She was ordered to continue her usual diet until Thursday morning, then to take a full dose of her laxative medicine, after which she

was to take nothing but barley water, and in the evening a few drops of elixir of opium, to quiet the peristaltic action of the bowels.

March 29th. Friday, 10 o'clock, A. M.; the patient's pulse is 86, soft, and compressible; skin soft and natural; tongue slightly red, but moist, and having a thin yellowish fur on its middle and posterior part. She had taken a dose of Epsom salts yesterday morning, which fully evacuated her bowels, after which she took ten drops of M' Munn's elixir of opium last evening, and slept pretty well nearly all night. After taking the salts she was restricted to barley water as her only nourishment. This morning she had a small liquid discharge from her bowels resembling barley water. The last time, previously to the operation, she passed her water, was between 9 and 10 o'clock, A. M., to the amount of a teacupful, which was an unusually large quantity for her to make at once. It reddened litmus paper.

Preparatory to the operation, all who were to be engaged in the manipulation of the abdomen, carefully trimmed their nails, and washed their hands, and every arrangement was made by my brother and myself previously to admitting the other medical gentlemen into the room. The patient was very comfortably fixed upon an ordinary dining table, with the leaves down, her head and shoulders were slightly raised and resting on pillows, and her feet supported upon two chairs at the lower end of the table, her hips being near the end, and covered by a sheet applied as a child's diaper; a sheet was thrown over her lower extremities, and an ordinary night-gown enveloped her body. The hair along the mesian line of the abdomen, and over the pubis, was shaved off, and the parts cleanly sponged and dried. The abdomen presented an enlargement equal to that usually found in the seventh month of pregnancy, wanting, however, its symmetry, since the tumour principally occupied the left side.

All the preparations being completed, and the patient's mind being as calm and tranquil as could be desired under the circumstances, the medical attendants were called into the room, and at the same moment a light cambric handkerchief was thrown loosely over the patient's face.

I took my position upon the right side of the patient, my brother, as principal assistant, being on the left, and in the presence of Professor D. Gilbert, Drs. Shellar, Stubbs, Gryder, Carpenter, and Cox, respectable physicians, and Messrs. Richards, Rohrer, Hershey, and Franklin, medical students, and one female attendant, I commenced the operation at eleven minutes past 11 o'clock, A. M., the patient not being in any way secured or fastened, excepting her knees and hands supported by the physicians present.

I began the incision with a scalpel, immediately below the umbilicus, and carried it down in a straight line to within one inch of the symphysis pubis, making a bold section through the skin and subcutaneous tissues, until I struck upon the sheath of the recti muscles. The adipose tissue was unusually abundant for so lean a patient. In deepening the incision about the centre of the section, the inner edge of the right rectus muscle was penetrated, in consequence of having been drawn over towards the left side by the greater prominence of the tumour in that direction. A small incision was now made through the linea alba and peritoneum, through which I introduced the probe-pointed bistoury, and slit them open to the extent of the external wound. The patient did not evince any pain until this section of the peritoneum was being made. A small branch of the epigastric artery was wounded just below the umbilicus, and another just above the pubis, requiring no ligature. As soon as the peritoneum was opened, a large white

dense sac, studded with dendriform clusters of capillary vessels, rode up against the opening. I now introduced my hand into the abdominal cavity for the purpose of examining the connections of the tumour, and of lifting it out of its bed. The contact of the hand against the internal face of the peritoneum produced considerable pain. Carrying my hand up the right side of the tumour, and over its fundus, which projected into the epigastric region, I discovered no adhesions until I arrived into the lower part of the left hypochondriac region, where I came against a ligamentous band, which could be traced in a continuous sheet along the left side down into the pelvis. Now endeavouring, with my hand behind the tumour, to tilt it out of the abdomen, I found the opening entirely too small to permit this, and as there was no effusion into the cavity of the peritoneum, and as I did not wish the contents of the sacs to escape therein, I preferred extending the incision both ways to diminishing the size of the tumour by puncturing the cysts, and thus also increasing the difficulties by rendering them flaccid. The incision below was continued to the bone, and above it was extended about three inches, rising above the umbilicus about two inches, and passing it on the left side. I was now enabled to seize the tumour with both hands, and by careful manipulation succeeded in rolling out the fundus of the tumour. The lower part of the tumour still seemed to be engaged in the pelvis, but by continuing gradual outward pressure, it suddenly arose from the pelvis with a sucking kind of sound distinctly audible. During this time there was no protrusion of the intestines, except a very small knuckle at the upper and right side of the tumour, which was easily pushed back by my brother's finger. I now carefully drew the tumour forward through the opening, and placing it into the hands of Dr. Gilbert, I turned it over upon the left side of the patient, in order to have a better opportunity of tying its pedicle, which we had supposed had originated from the *right* side of the uterus. The band previously detected upon the *left* side I considered extensive *omental* attachments, and as it bound down that side of the tumour very closely, I determined to secure the pedicle on the right side first, and afterwards evert- ing the tumour still more, I could more easily detach the rest. To our great disappointment, however, I found no connections whatever with the *right* side of the uterus. I now changed the position of the tumour from the left side of the patient over to the right side, thus putting on the stretch and exposing to view a broad ligamentous sheet, attaching the tumour to the body of the patient by a pedicle five or six inches broad, extending from the left hypochondrium down into the pelvis. Within this ligament the sigmoid flexure of the colon was incorporated, and near its upper border approximated to within an inch of the tumour. It was also highly vascular; one vein, as large as the largest size goose-quill, ran along the tumour where it was attached, and sent out large ramifications throughout its whole extent. These veins were very much engorged with dark-coloured blood. This pedicle consisted of a double fold of peritoneum arising out of the broad ligament of the uterus, having a triangular form; its lower edge, running from the uterus to the left side of the pelvis, was several inches long; its upper edge, running from the tumour to the uplifted sigmoid flexure, was one inch in length; and the distance along the tumour, between these two edges, as above stated, five or six inches long, having the fallopian tube very much elongated and somewhat attenuated, stretched up to the top of the tumour. A surgeon's needle, armed with a waxed single strand of saddler's silk, was now passed through so as to include about one inch of the lower border of the pedicle, and firmly tied. This portion of the pedicle was then

divided near the tumour. This exposed some of the large veins upon its surface, which ruptured as soon as they were deprived of their peritoneal support, and most of the blood lost in the operation was poured out at this stage of the dissection. A second single ligature was introduced about an inch above the first, embracing several large veins and the fallopian tube, but in endeavouring to tie it the ligature broke twice, after which I substituted a double strand of saddler's silk, and secured it well. About one-half of the pedicle remaining above, through which several engorged veins inosculated, it was transfixated in the centre with a needle doubly armed with a double strand of silk, which being secured below and above, the last being very near the tumour in order to avoid the intestine, the whole connection was then separated and the tumour removed. The amount of blood lost was not more than five or six ounces, which was found in the cavity of the pelvis. This was carefully removed, and the cavity well cleansed from all coagula and fluid blood, by soft sponges pressed out of warm water. The cut ends of the pedicle were carefully examined, and there was no oozing of blood. The ligatures, four in number, having been brought out at the lower end of the wound, the latter was now carefully closed by nine harelip sutures, and intervening adhesive strips, covered with patent lint, and a soft compress, and the whole secured by a broad towel, extending from the thorax to the trochanters, around the abdomen; and the patient was comfortably placed in bed at five minutes before 12 o'clock.

During the operation the patient evinced comparatively little pain or suffering; indeed, at no time were there any manifestations of pain, except when the peritoneal lining of the abdominal parietes was touched. There was also some uneasiness noticed whenever the support to the tumour, after being dislodged, was in any way relaxed, so as to cause traction upon its attachment to the pedicle. By the time the tumour was removed the patient's pulse had fallen to 60. The respiration was not complained of, but seemed to be performed without the aid of the abdominal muscles.

In consequence of the previous judicious treatment and regimen, the intestines lay in a perfectly collapsed or quiescent state, quite free from any peristaltic action, thereby enabling the operation to proceed without embarrassment or difficulty being experienced from them. The intestines, however, presented a darker pinkish appearance than in Miss R.'s case, owing to considerable venous congestion, as was evinced by an engorged state of the veins of the mesentery. The very favourable condition of the stomach from the same cause was also pre-eminently exemplified, by the complete absence, during the operation, of all gastric irritability—no nausea, vomiting, or other uneasiness being complained of, except a slight feeling of flatulent distension, unaccompanied by eructation, a small sense of thirst, and a feeling of weakness in the first stage of the operation, which last, however, soon passed away.

There was no chilliness or sinking complained of, but the hands became somewhat cool and relaxed.

The omentum was crowded down into the left side of the pelvis, had quite a healthy aspect, and formed no attachments to the tumour. It was lifted from the pelvis, and before closing the wound, spread over the anterior face of the small intestines. The uterus was quite healthy in appearance, but considered to be slightly hypertrophied, and the *right ovary was entirely free from disease*. There were no attachments at the points where paracentesis had been performed; indeed, there were no connections whatever, excepting to the pedicle.

While engaged in dressing the wound, the patient gave directions to the persons about her in a clear and strong voice.

The operation, previously to dislocating the tumour, occupied six minutes, and eight minutes more until the tumour was removed, making fourteen minutes from the time the knife was laid upon the abdomen until the tumour was carried from the patient.

At the commencement of the operation the temperature of the room was 81° , and arose as the operation progressed to 86° . The out-door temperature at 2 o'clock, P. M., was 61° . Wind N. W. in the morning, and changed to the E. afterwards.

Before she was placed upon the table there were several eructations of wind from the stomach, and after she was placed upon the table, in raising her up to fix the pillows there was a slight eructation.

Fifteen minutes after 12 o'clock her pulse was 56; her countenance slightly pale, but not sunken; the temperature of the skin very little lower than natural; voice clear and strong; she complains of dull, deep-seated pain in the lower and internal part of the abdomen, near the seat of the ligatures. Ten minutes after the pulse rose to 66. The patient is to be restricted to cold water, no nourishment. $1\frac{1}{2}$, P. M. Pulse 66; skin warmer, quite natural; tongue the same as before the operation; pain somewhat diminished; no flatulence, hiccup, or nausea. 2 o'clock, P. M. Pulse 68; the patient complains of slight sickness of the stomach, which she attributes to flatulency, and can relieve herself by eructation. 2 hours 45 minutes. Wind more troublesome, a little belching, and feeling of sickness; describes the feeling as water-brash. 3 P. M. Pulse 70; stomach more settled, skin soft and of good temperature, and the patient quite comfortable. $3\frac{1}{2}$, P. M. In a natural sleep. 4, P. M. Pulse 77, heat of skin increased, patient comfortable. 7, P. M. Pulse 82, continues soft and compressible. Wind blowing very strong from the east, and raining hard. 10, P. M. Pulse 84, rather more full and resisting; skin warmer, and she complains of the hands being too warm. The tongue has not altered in appearance, but becomes dry, which is usual with her while in a recumbent posture. $11\frac{1}{2}$, P. M. Drew off a half pint of urine with the catheter, in order to prevent any action of the abdominal muscles by any voluntary effort. It reddened litmus.

From this time until 3 o'clock of Saturday morning, the 30th, her pulse ranged from 78 to 84, and was soft and compressible. At this time the pulse had very slight quickness and some fulness; she had a transient flatulent pain, producing a little sickness. 6, A. M. The patient passed a very comfortable night; had no symptoms requiring attention; took a few spoonfuls of water occasionally, and dozed a good deal; complained only of dryness of the mouth and heat of the hands. Wiped her hands with a wet cloth, which was very grateful to her. Felt a desire to have her bowels moved, which passed off again. 9, A. M. Pulse has not risen above 84. Used the catheter; removed a half pint of healthy urine. Allowed the patient thin barley water. $2\frac{1}{2}$, P. M. Pulse 85; a little quickness. Complains of her position; feels fatigued and sore. Had her shifted in a moderate degree; felt pain over the abdomen on being moved. Some gastric disturbance from wind. 3, P. M. Pulse 86, moderately hard; skin quite natural. Had a smart thunder gust with hail. 5, P. M. Pulse 84; complains of pain after drinking cold water. 6, P. M. Pulse 90 to 94, rather quick and full, but not hard; palms and soles warm and rather dry; tongue slightly furred, somewhat dry, but not glazed; general surface of skin about natural; has passed no wind per rectum; has had no real nausea, but a feeling of wind in

the stomach, and a desire to raise it. Removed eight ounces of deep straw-coloured urine. Moderate pressure on the abdomen—gives no pain except in the left iliac region, and that is more soreness than sharp pain. 9, P. M. Pulse 98, harder; tongue dry and furred; thirst increased; skin hotter than natural; tenderness on pressure over the whole abdomen, greater at the lower part. Dr. Cox, who remained with her at this time, bled her to the amount of about ten ounces, after which the pulse rose to 100, and became soft. 10, P. M. Pulse 98, soft and much less quick; skin natural temperature; abdominal tenderness diminished; stomach calm; the patient prefers moderately cool water to barley water.

Sunday, 31st, 1 o'clock, A. M. Pulse 95; upper part of abdomen slightly painful, lower part painful on pressure; inclined to doze; thirst not great. 7, A. M. Pulse 100; has not exceeded this. Dr. Shellar removed ten ounces of highly coloured acid urine, after which the pulse sunk to 90, soft; skin natural; slight pain in the abdomen on coughing. Passed a pretty comfortable night, and had some natural sleep, and dozed a good deal. The thermometer sunk to 22° last night, and the wind changed to the N. W. 2, P. M. Pulse 102, soft, compressible; skin natural; tongue dry, but soft; no unusual fur; it appears perfectly natural after drinking; abdomen slightly distended, sound tympanitic; no tenderness on pressure, except over the left groin; drew off about four ounces of highly coloured urine. The patient was shifted from one side of the bed to the other without any manifestation of pain; a disposition to rist up wind. As barley water sickens her, ordered her to take the water off of scalded bread or toast, and seasoned with salt. Took a teaspoonful of salts. 5, P. M. Pulse 105, harder; skin warmer, soft, and moderately moist; slight tenderness over the whole abdomen; the patient moans, relishes toast and water, and takes it freely, and it lies well on the stomach; slight borborygmi. 7, P. M. Administered injection of flaxseed tea; tenderness of the abdomen diminished; pulse 106, compressible. 8, P. M. Pulse 105, softer; injection operated about five minutes ago, had a fetid smell, and was accompanied with much wind; less heat of skin; scarcely any pain on pressure, except in the lower part of the abdomen. 10, P. M. Pulse 103; has had quite a refreshing sleep; drew off five ounces of highly coloured urine. 11 $\frac{1}{2}$, P. M. Pulse 102; has been sleeping; Dr. Shellar administered another injection of flaxseed tea, with five drops of elixir of opium in it; complains of water-brash directly after drinking; tosses about the arms, and draws up her knees occasionally. 12 o'clock. Pulse 100, soft; skin soft and natural; less dryness of hands; lies perfectly easy; is in a perfectly natural sleep; very little tenderness of the abdomen.

2 o'clock, A. M. Monday, April 1st. Pulse 100; gave a teaspoonful of salts. 5, A. M. Pulse 98; has been rather restless since 3, A. M. 6, A. M. Pulse 96; no operation on the bowels; gave another injection, which operated soon; stools liquid, and very fetid; mouth more moist; thirst still considerable. 9, A. M. Pulse 96; skin cooler; bowels continued open during the last hour. 10 $\frac{1}{2}$, A. M. Pulse 97 and soft; drew off half a pint of highly coloured urine; skin soft and pleasant; inclined the patient towards the left side. 7, P. M. Pulse 100; the patient moans; thirst; abdomen tympanitic; complains of slight pain on pressure; sickness of the stomach after drinking; palms and soles dry; administered an injection of flaxseed tea; drew off four ounces of urine highly coloured. 8 $\frac{1}{2}$, P. M. Injection passed with a good deal of wind of a fetid smell. 10, P. M. Pulse 98, soft; has had a good sleep; gave an injection. 11, P. M. Pulse 96; skin moist;

passed injection with considerable wind and some natural stool, and less fetid.

Tuesday, April 2d, 2, A. M. Dr. Shellar gave her a teaspoonful of weak mint tea, which relieved her stomach of wind, and made her quite easy; pulse 96. 6, A. M. Pulse 97; passed urine herself with griping pain; borborygmi with frequent discharges of wind per anum. Slept a good deal during the night. 8, A. M. Pulse 95; skin moist; had two black stools since 6 o'clock, of a sour disagreeable smell. 9, A. M. Pulse 96; griping of the bowels; palms and soles dry and hot; no pain on pressure over the stomach. 10 $\frac{1}{2}$ A. M. Griping and frequent moaning since 9 o'clock; discharged urine of a very disagreeable smell. 12 $\frac{1}{2}$, P. M. Administered half a teaspoonful of oil. 1 $\frac{1}{2}$, P. M. Pulse 96, compressible; a fluid of a brick dust colour, and of a very disagreeable smell, works up occasionally from the stomach; discharged per anum a good deal of wind of a very disagreeable smell. 3, P. M. Pulse 95; urinated an hour since; gave a half spoonful of oil, which was followed in half an hour by a stool of the natural colour, and in half an hour afterwards another of the same kind. 4 $\frac{1}{2}$, P. M. The patient visited by Dr. J. L. Atlee. The general symptoms favourable; pulse 100; skin natural, nose warm, cheeks cool, palms rather warmer than the rest of the body; wound dry; frequent eructations of wind, with ejections from the stomach of a yellowish offensive fluid, possessing a smell similar to that of the stools, but more faint and less fetid; has had two small yellowish stools, evidently bile; says the eructations are bitter, not sour; no general tenderness of the abdomen, but from the left side upwards there is some tenderness, diminishing as we ascend; there is considerable distension along the whole track of the colon. 8, P. M. Pulse 100, small and weak; skin as before; has thrown off the water occasionally which she takes for several hours past; distension continues. Gave a flaxseed injection with a tablespoonful of the aqueous solution of assafœtida. 9, P. M. Dr. Shellar has the patient in charge to-night. She has had a half an hour of sound sleep; pulse 100; skin of the natural temperature; still troubled with eructations of the same nature as during the afternoon, though not so frequently; some of the injection discharged with some flatus; not much tenderness of the abdomen, still distended. Repeated the assafœtida injection, which brought away a great deal of wind, but no feculent discharge. Passed urine voluntarily, being very highly coloured and having a strong smell. 10 $\frac{1}{2}$, P. M. Symptoms the same, hands cool; gave ol. ricini et spirits tereb. $\ddot{\text{a}}\ddot{\text{z}}$ ss. 11, P. M. Pulse 102; ejected some of the medicine.

1 $\frac{1}{2}$, A. M. Wednesday, April 3d. Pulse 102; hands warm; other symptoms the same; discharged a large quantity of wind; then fell asleep soundly for three quarters of an hour; complains of a burning in the throat and stomach, caused by the medicine; eructations not so frequent. 2, A. M. Pulse 102, compressible; symptoms the same, excepting that she feels easier and can sleep; gave an injection. 3, A. M. Pulse 104; tenderness of the epigastrium and general uneasiness; discharges wind per rectum. 4 $\frac{1}{2}$, A. M. Pulse 124; abstracted from the arm about three ounces of blood, after which the pulse sunk to 114; hands and face cool; eructations returned; discharged urine. 6, A. M. Pulse 120; hands getting warmer by the application of warm cloths; sickness and eructations of the stomach continue. An express was sent off at 4 $\frac{1}{2}$, A. M. from Mr. S., distance 10 miles, by Dr. Shellar, to Lancaster, desiring our immediate attendance, and intimating the most unfavourable turn to the patient's symptoms. I arrived at 8 $\frac{1}{2}$, A. M.,

but found the patient rapidly sinking, the pulse being almost imperceptible, and too frequent to be counted; the hands and wrists cold and clammy; and very great distension along both sides and in the epigastrium, the abdomen less elevated along the track of the wound. Fearing some intestinal obstruction, perhaps incarceration of a portion of the intestine in the track of the wound, as in one of Mr. Walne's cases, I examined the wound carefully, withdrew all the needles, but could discover no cause existing there. Fearing that the ligature near the sigmoid flexure might have strangulated that part of the colon, I endeavoured to introduce a rectum tube, but could not succeed in passing it in more than four or five inches. In surveying the obstruction in the rectum with my finger, *I struck again against the same tumour which we had encountered in all our examinations before the operation,* but thought it might be nothing more than a knuckle of intestine very much distended, and occupying the same location. I now administered injections of turpentine and gave brandy and water, but without avail, and the patient sank into the arms of death at three-quarters past 9, A. M.

Autopsy one hour after death.—The abdomen externally was found sunk along the track of the wound, particularly about the umbilicus; it was prominent along both sides, most so on the right, and was marked by very great fulness of the epigastrium; a depression existed between the epigastrium and each side.

The whole wound was united excepting a quarter of an inch at the umbilicus, and half an inch where the ligatures came out. The adhesions could be easily overcome by separating the edges with the fingers. Opposite the umbilicus, where the point of non-adhesion was, there was a small collection of bloody matter outside of the omentum, and also a small deposit of coagulated blood at the same place. The muscular or internal lips of the wound were slightly separated, between which the omentum was moderately elevated, but had no appearance of strangulation. Very slight adhesions existed between the anterior walls of the abdomen and the great omentum, this latter being spread over the intestines very much as we had placed it at the time of the operation. It was somewhat injected with arterial blood, and slightly inflamed, and its veins were congested. In endeavouring to raise the omentum from the small intestines, it was found to be attached to them, particularly at its lower extremity, and it appeared to dip down into the left side of the pelvis. In detaching it a considerable gush of serum rose up out of the left side of the pelvis. By raising the omentum the convolutions of the small intestines were discovered to be inflated, and suffused with a bright vermillion tint, particularly those most adjacent to the pelvis, and they were agglutinated by a soft albuminous exudation. The small intestines also adhered to the peritoneum lining the parietes of the abdomen at those points where the omentum did not intervene. The ileum was the most intensely inflamed, particularly near the valve of Bauhin, and a thick coat of lymph was deposited between its folds, and so bound down its convolutions as effectually to strangulate the bowel; there was also considerable distension of it, but the greatest distension was in the jejunum and duodenum. The stomach was greatly distended, but not much injected. The cæcum was moderately distended, but the ascending, transverse, and upper part of the descending colon was empty and very much contracted. A small quantity of flatus was in the lower part of the descending colon, but the sigmoid flexure was very much contracted and inflamed; the rectum being less so. The transverse colon particularly, was very firmly contracted and inflamed, having a bloody spotted appearance, and the omentum attached to it was very much injected. A

dense deposit of dull-white lymph was found about the intestines in the left lumbar region. On separating the folds of the intestines, a large quantity of sero-purulent fluid escaped, particularly from the iliac and pelvic fossæ. In some of the interspaces there was actual pus, appearing like small abscesses.

The pelvic viscera were glued together. The right ovary was seen in the same condition as at the time of the operation, excepting that it had formed loose attachments to the parts around. The womb was considered somewhat hypertrophied for a person at her age.

We now determined to remove the womb, right ovary, rectum, sigmoid flexure, and the remains of the pedicle, with the ligatures attached. After relieving the viscera of all their surrounding attachments, and passing the hand deeply into the pelvis to raise them out, *a globular cyst, about the size of an orange*, was lifted up from the deepest part of the pelvis, and was found to be pendulous from the *right ovary*. The uterus was severed just below its cervix before its removal, and there issued from its cavity, at the points of section, a yellowish thick gelatinous fluid.

On examining the parts after their removal, the first ligature was found to be attached to the posterior wall of the broad ligament, including the round ligament, near the body of the uterus, and about a quarter of an inch beneath the fallopian tube. The second enveloped the fallopian tube and large vessels about two inches from the uterus. The third also enclosed the fallopian tube and vessels about half an inch further on. And the fourth included the sheet of membrane and vessels between the tumour and sigmoid flexure, about half an inch distance from the latter. The examination of the parts on the right side of the uterus was exceedingly interesting and satisfactory: *the right ovary was healthy*, there being no cystic degeneration within it or the fallopian tube, and having no immediate connection with the cyst which had occupied the pelvis on the right side. The cyst had its origin *exclusively in the broad ligament*, projecting from its posterior walls, had a pedicle about two inches broad, was suspended at a distance of one inch at least from the fallopian tube and ovary, the latter being entirely free, and its distance from the body of the uterus was about one inch and a quarter, it being supported on that part of its pedicle by the round ligament. The cyst must have occupied the recto-vaginal cul de sac of the peritoneum, and must have been driven down against the coccyx by the distended cysts of the left ovary. Its very low position in the pelvis may be understood when it is mentioned that the anterior duplicature of the peritoneum was reflected off from the broad ligament to the pubic portion of the pelvis, about half an inch above the highest portion of the cyst, and that the same point of the latter was at least two and a half inches below the fundus of the uterus. The uterus was lined with a beautiful velvety scarlet membrane; the orificium internum was studded with diaphanous papillary vesicles, which, on being cut, effused a gelatinous kind of fluid; the dilated part of the cavity, corresponding with the cervix, was plainly marked by the ridges denominated *arbor vitæ uterinæ*. The uterus was about three inches long, two inches wide, and its walls about half an inch thick, being perfectly healthy in structure. The sigmoid flexure attached to the detached parts was contracted in size, and very much inflamed, particularly near the ligature around the pedicle. This very interesting specimen I have carefully preserved.

Description of the extirpated tumour. The tumour, immediately after the operation, weighed ten and a quarter pounds; it lost three-quarters of a pound weight in twelve days, being suspended in diluted alcohol, after which the following observations were made. The greatest circumference

of the tumour is two feet nine inches, the smallest two feet. Its shape is irregularly pyriform, with a cordiform indentation at its narrowest end. The marks of the trocar are plainly visible, and, when placed in a horizontal line, indicate very accurately the position of the tumour within the abdomen at the time of tapping. The cordiform indentation, with its bulging lips on each side, occupied the pelvis, and most probably received within it the fundus uteri. The larger end of the tumour occupied the epigastrium, and the septum between the cysts, two of which constituted the entire tumour, run obliquely down on the left of the linea alba, gradually approaching it in its descent. It was very evident, from comparing the old with the recent marks of the trocar, that the tumour had changed its position to a small extent after the first tapping, and that the upper portion was thrown over more to the left, and the lower to the right side. The pedicle had a most extensive attachment to the tumour. Starting at the inferior portion of the septum, by the insertion of the round ligament, it sweeps around the bulging part of the left side of the tumour, and returning again to the septum terminates in the fundus of the tumour, making an attachment of thirteen and a half inches in length, even in this state of the sacs, they being only half filled with fluid. This measurement includes several inches of the pedicle which were not touched by the knife. The length of the cut portion, measured on the tumour, is nine and a half inches, and the part of the fallopian tube, attached to the tumour, is five and a half inches in length, which, added to the uterine portion, gives the great length of eight or nine inches. The fallopian tube terminates in a dense mass in the fundus of the tumour, which appears to be the ovary disintegrated and diffused through the structure of the cyst in that part, and the fimbriated extremity is stretched over a considerable space on the posterior wall of the fundus. This is much the most dense part of the cysts, excepting the septum, which forms dense ridges upon the surface of the tumour, and plainly points out its own location. The right sac is the largest. The walls of the cysts are a very dense white structure, interspersed with a few transparent spots.

From the position of the sigmoid flexure, and its connection with the pedicle, I have no doubt that as the cysts became developed, they elevated the posterior fold of the broad ligament as it is reflected off to the sigmoid flexure, and stretching it as they enlarged, thus elevated the intestine and involved it in the pedicle. Indeed, from the circumstance of the round ligament being inserted in the *lower* part of the septum, and the fimbriated extremity of the fallopian tube being spread upon its *upper* part, with the whole tube swinging entirely free of the tumour, there is every reason to believe that it originated, like the other cyst, in the posterior walls of the broad ligament, and in this way more readily involved this intestine.

Remarks.—I have given this unfortunate case in *full detail*, in a conscious spirit of truth and candour, because it is an *unsuccessful* one. It is not so much to avoid the censure of “keeping studiously and carefully from the public eye the unsuccessful cases of the operation,” (Mr. Lawrence,) which is a species of dishonesty and empiricism deserving unqualified condemnation, as to do an act of *professional duty* peremptorily required by the unsettled position of this operation in the minds of the most eminent surgeons, that induces me to its publication. I have carefully avoided giving any *colour* to the case, save what its symptoms have expressed, and

I am perfectly willing to furnish it as one of the numerical arguments against ovariotomy. Still, candidly admitting the case to be fairly one of *unsuccess*, notwithstanding the mitigating circumstances of age, constitution, and insidious inflammation, I as confidently as ever consider the operation justifiable in appropriate cases of a disease otherwise desperate and incurable, and where it "*secures the only remaining chance of life.*"—(Blundel, *Medical Examiner.*)

In reviewing the history and symptoms of this case, it must be admitted that every thing led to the opinion of the *right* ovary alone being diseased: pain in the *right* side, neuralgia of the *right* thigh, tumour in the *right* side of the pelvis crowding the uterus to the *left*, pressure elevating this tumour into the *right* groin, evident attachments of the tumour to the *right* side of the uterus, nothing abnormal occupying the *left* side of uterus—each, singly, drew attention to the *right* ovary, and, collectively, almost indubitably indicated the location of the disease. On the other hand, the swelling of the *left* leg, and the *flat* sound over the *left* lumbar region after tapping, were the only symptoms which could draw attention to the *left* ovary. The first symptom could be explained by the peculiar anatomical arrangement of the iliac vessels; for, according to my observation, it is a fact, only explicable, in my opinion, by the anatomy of certain parts, that the *left* leg is more liable to oedema, varicose veins, &c., resulting from pressure within the abdomen, as in pregnancy, &c., than the *right* leg. The right common iliac artery, traversing the *left* common iliac vein, just below its termination in the ascending cava, and where it lies upon the resisting prominence of the fifth lumbar vertebra, must necessarily obstruct the circulation in the *inelastic* vein whenever subjected to the insistent pressure of a tumour, and thus impeding the whole venous circulation of the *left* leg, while the supply of blood would be continued through the *elastic resisting* artery, lead to an oedematous or a varicose state of this limb sooner than the other. The second symptom, or dulness of sound, could be explained by supposing that the flaccid cyst might be retained in the *left* lumbar region by omental adhesions, a circumstance not at all unusual in ovarian tumour. With this explanation, the conclusion, that the disease was in the *right* ovary was irresistible.

The operation, therefore, was commenced with every confidence of finding the pedicle of the tumour attached to the *right* side of the uterus, and our astonishment was great in discovering the tumour, *at this point*, entirely free, and its pedicle, which was the only attachment, arising out of the *opposite* side. Although this circumstance could not affect the course or the result of the operation, it yet so conflicted with the diagnosis as to convince us of the truth of the *antecedent* of the enthymeme, assumed by those unfavourable to gastrotomy, that the "*very impossibility of knowing beforehand the exact condition of the organs which it is proposed to extirpate forms one of the strongest arguments against the operation,*" (*The British and Foreign*

Medical Review,) without establishing the consequent deduced from it. Desiring, however, to explain the contradiction, we considered that the lower end of the cysts, which had been wedged into the pelvis, had been tilted over upon the *right* side of the uterus, and dipping deeply down had simulated the *tumour*, which we had previously felt in that location, and that that portion of the cysts contained an indurated portion of the ovary, which had continued *in situ* after the fluid had been removed. In order, however, fully to satisfy ourselves that the *right* ovary was not diseased, I took it up in my fingers, with the fallopian tube, and a considerable portion of broad ligament, examined it carefully, and exhibited it to the gentlemen around. We all considered it *healthy*, and so it was pronounced. Had our patient recovered after the operation, the true state of things could never have been known, and the case would have been reported in accordance with the above state of facts. The consequence would have been, that *her disease would have returned*, and its return would have been attributed to a *subsequent development of diseased action* in the right ovary, which had been perfectly *healthy at the time of the operation.* Here then would have been another blow to the advocates of *gastrotomy*, so that living or dead the case would have been used against them. In order, therefore, to make the operation doubly sure, the extirpation of both ovaria, the *healthy* as well as diseased, would have to be resorted to—a course which I had previously contemplated in patients who had passed the climacteric period of life. The patient, however, died, and was subjected to a post-mortem examination. This revealed a state of things which was equally as astonishing, and which, although apparently contradicting the unanimous opinion expressed at the time of the operation, *essentially confirmed the diagnosis: there was a tumour attached to the right side of the uterus.* It was this very tumour that had been felt previously to the operation, and also after it while employing the rectum tube when the patient was moribund. It was only discoverable per vaginam vel per rectum, and was entirely out of view when the abdomen was opened and the pelvis examined through its superior strait, both during the operation and the autopsy. Now it is such cases as this that often leads to the most important precautions in practice, and in a similar case *I would not close the wound until I had fully satisfied myself by a vaginal examination.* The publication of this case, therefore, may produce this, if no other good in *ovariotomy*: establish the rule *never to finish the operation without such an examination.* It must be very evident that the mere survey of the ovary is by no means sufficient, and that the cases of return of this disease on record may be accounted for in this way. An examination of this kind, in addition, is thorough, is the only way to avoid difficulty, and to clear up all doubt.

In reference to the cause of death, *peritonitis*, there were none of the ordinary indications of this disease, nor any symptoms requiring particular treatment, until the evening of the fifth day. Indeed, it was a matter of

general surprise, how little disturbance so great a wound had produced, and that not a single unfavourable symptom arose during or for several days after the operation. I have no doubt, from the post-mortem appearances, that inflammation supervened before the fifth day, and that this was one of those anomalous cases of peritonitis, which steals on insidiously, where the bowels act without impediment, where vomiting and unusual gastric irritation do not exist, where the pulse seldom exceeds 100, and where the state of the skin continues natural, and even where tenderness of the abdomen is not remarkable. There had been no rigors; no acute pain, nor great distress from pressure, nor feeling of incumbrance from the bed-clothes; no obstinate constipation; no nausea and vomiting until the last evening; no dry and hot skin; no rapid, small, and hard pulse; no white furred tongue and dry lips; nothing indicating inflammation of the peritoneum. The tenderness of the abdomen and flatulency, the only symptoms, were not at all remarkable, and not greater than would be likely to arise from the healthy inflammation of such a wound. By this apparently very favourable condition of the patient we were lulled into inaction, and at the very time we were congratulating her and ourselves upon her having passed the time of greatest danger so well, the disease, no doubt, was quietly making the most dreadful havoc. Had the usual evidences of peritonitis existed, we were prepared and watching to meet them in their onset, and thus met they most probably would have succumbed to our measures. The question may here be asked,—had age, or the shock from the operation, or both together, any agency in so diminishing the susceptibility of the system as to render it incapable of *noticing* this state of things? The nervous shock was certainly not great, and gradual and apparently wholesome reaction supervened in good time. Her age, therefore, conjoined with a feeble and debilitated constitution, may perhaps account for the want of the necessary elasticity of fibre.

The extreme sensitiveness of the peritoneum, and the congested state of the mesenteric veins at the time of the operation, may have had considerable influence in causing peritonitis. The section of the peritoneum, and the friction of the hand against it, produced infinitely greater manifestations of suffering than any other part of the operation. This did not exist in my brother's case, and it is not stated as having occurred in any other that I have seen reported. It was, however, remarkable in this instance, and excited the attention of all present.*

* Another instance of extensive exposure of the peritoneum, occurred in my practice in June, 1830. I was called to see Master D. L., a lad about ten years old, who had been attacked by a furious cow, which had just calved. She threw him down into the corner of a worm-fence, and gored him most dreadfully. The most serious wound was in the walls of the abdomen: the point of the horn entered at the superior spinous process of the ilium on one side, crossed the abdomen transversely, and came out at the same point on the opposite side, ripping open the whole intermediate space. The wound gaped at least three inches, owing to the retraction of the divided muscular fibres. Fortunately the peritoneum was not wounded. The point of the horn appeared to have insinuated

Another circumstance, which I believe is unique in this case, is the implication of the intestine within the pedicle of the tumour. In Professor Lizar's third case, and in Dr. Chrysmar's first case, both of which proved fatal, the former in 53, the latter in 36 hours, there were adhesions of the colon to the tumour, (*The British and Foreign Medical Review*), but in neither of these cases was it involved within the pedicle. In this case it was, and so closely approximated the tumour, that only one inch of pedicle existed between the two, upon which to apply the ligature. At this point on the intestine, and in the adjacent small intestines, the marks of inflammation were intense. Did the inflammation originate here and radiate to the parts contiguous? Pathologists inform us that the effect of contact in propagating serous inflammation, is more obvious than that of continuity.

This case would seem to show that tapping, either as an aid to diagnosis, or prospective to an operation, is not objectionable as inducing adhesions. Dr. Frederick Bird is of the same opinion. (*Braithwaite's Retrospect*.) Dr. Charles Clay, however, is "averse to puncturing, because at the places punctured adhesions are effected, and by the alternate distension and collapse of the sac, fresh adhesions are also formed in other parts." (*Ibid.*) In my case not the least adhesions existed, notwithstanding suppurative inflammation supervened in the abdominal walls after one of the tappings, a circumstance highly calculated to produce them.

It must have been observed in the report of this case, that before the operation the uterus was considered *atrophied*, and that during the operation, and also at the autopsy, it was considered *hypertrophied* for the age of the patient. Its exact measurement is given, and it corresponds with the size of a healthy womb in the child-bearing period of life. Could both conditions have existed at the several periods of observation? The query is of no moment excepting as connected with the diagnosis, and may, I think, reasonably be answered in the affirmative. It possibly was in a state of atrophy, and may have become hypertrophied by subsequently increased action within itself, as was

itself between the peritoneum lining the parietes and the fascia transversalis, and the convex body of the horn skated upon the peritoneum without tearing it; every thing anterior to it was ripped asunder, and a clean, even, incised-like wound remained. The convolutions of the bowels were plainly visible through the semi-transparent peritoneum, which was the only thing that prevented their escape, being placed like a glass in front of them. In riding hastily to the place I lost my case of instruments, and had nothing but a roll of adhesive plaster with which to dress this extensive wound. I, however, brought the lips of the wound carefully together, and secured them with very long straps of plaster, without the aid of a single ligature. Then placing the patient on his back with the shoulders and hips elevated, I gave a dose of laudanum to keep the bowels quiet, placed him on absolute diet, and had him watched night and day to prevent motion of the body. Continuing rigidly this let-alone treatment for several days, the whole wound healed up by the first intention. The bowels were acted on for the first time by oil on the fifth day, and the patient recovered without a bad symptom. In this case also, no tenderness of the peritoneum was evinced by handling.

indicated by an augmentation of tenderness at and after the second tapping. The relative position of the tumour and the womb, the top of the former, after the removal of the parts, being two and a half inches below the fundus of the latter, may perhaps have misled us in regard to its atrophied state, as the *cervix uteri* corresponded with the body of the tumour, and may have been mistaken for the womb itself.

Aiding in the diagnosis of our case, there was one very prominent symptom, which I do not remember of having seen noticed by writers in any other, but which I think would generally obtain in encysted dropsy: *the pulsations of the abdominal tumour, and the impulse of the aorta.* In great abdominal enlargement, under the very circumstances when the difficulty of distinguishing between peritoneal and ovarian dropsies arises, I think that this would be a *pathognomonic* feature of great value. The impulse of the aorta upon the resisting walls of a distended cyst, would communicate fluctuation in all directions, in the same way that the impulsion of the fingers upon the walls of the abdomen produces a corresponding motion in ascites, while at the same time the aortic impulse in the latter, for apparent reasons, would be exceedingly feeble or not at all recognizable. In Miss R.'s case, the only thing in dispute between my brother and myself remaining unsettled until the operation, was in relation to the character of the dropsy. It was *ovarian* tumour and *peritoneal* dropsy, a case entirely unique in the medical records accessible at the time. Taking all the diagnostic indications collectively, it was admitted on both sides, that its character was obscure. In that case the abdominal pulsation was absent.

It is worthy of being observed that the fluid drawn from these cysts, was different from that which we find in the majority of cases, and as this is esteemed one of the most valuable diagnostic signs, I desire to refer to it here. Dr. Alexander Kilgour, who furnishes some valuable hints on the diagnosis of ovarian disease, observes that "in most cases of encysted ovarian dropsy the fluid is thicker than serum, flowing through the canula of the consistence of train oil, of a greenish or dark colour, and of a saponaceous feel. Sometimes it is grumous, like drained honey, or like jelly; or it assumes these characters as the sac becomes emptied. Nitric acid added to it produces a thick coagulum, and so also does boiling. When these characters are present, there can be no doubt as to the nature of the dropsy." (*Am. Journ. Med. Sci.*, Oct. 1843, p. 489.) This is true, and such a fluid unfailingly distinguishes ovarian dropsy from every thing else. But there are cases of ovarian dropsy, not alone "unilocular," where the fluid is not so easily distinguished from that of ascites, and where, if we possessed no collateral aid in diagnosis, it could not serve us in deciding upon the nature of the disease. Such was this case. The physical characters of the fluid corresponded in density, colour, and transparency, with ascitic; and its chemical character, as tested by heat and nitric acid, exhibited similar evidence to that of ascites, tested in

two instances since. The only difference discoverable between the two fluids was in the amount of albumen, the ovarian containing more, and therefore being more densely coagulable than the peritoneal. This property, therefore, not being exclusive, will not always be available as a characteristic sign, and it being only relative in degree, must prove uncertain in inexperienced hands, particularly when not associated with distinguishing physical characters.

I would also call attention to the condition of the cysts after tapping. They were collapsed into folds and ridges, which could be felt plainly within the cavity, and entirely distinct from the walls of the abdomen. How far the position of the cysts after paracentesis will diagnosticate adhesions may be presumed from this case, in which none existed. The effect of attachments between the cyst and walls of the abdomen would no doubt be a proportionate augmentation in the thickness of these walls, with a feeling of *double* folds in pinching them up between the fingers. Where the sac has receded from the walls of the abdomen, and forms rugæ within, there is strong presumption, if not absolute certainty, of the absence of adhesions, at least to the abdominal parietes. This state of the cysts also affords very strong pathognomonic evidence, for in ascites nothing of this kind would be presented.

The fact of the tumour having been composed of only two large cysts, free from adhesions, and independent of any great amount of solid deposit within its walls, would appear to render it a case peculiarly adapted to Jeaffreson's operation, but the great extent of the pedicle, its investment of the colon, and the proximity of the latter to the cysts, would plainly have rendered it equally, if not more immediately hazardous. Jeaffreson's operation, particularly as modified by Dr. Frederick Bird, is certainly worthy of imitation, but in many cases must necessarily yield to the large peritoneal section.

In peritoneal sections for the extirpation of ovaria I have thought that there might be less liability to inflammation than in wounds where such or similar disease does not exist. The constant friction of the tumour, and the distension of the peritoneum, may tend towards obtunding its sensibility, and rendering it less liable to react upon the application of irritants. In the above case, however, there evidently was a morbid state of irritability, a state of hyperemia existing in this membrane at the time of the operation, unusual in other cases, rendering it more liable to inflammatory action. With this view of the case, I doubt whether we "should be justified in making extensive incisions into the abdominal cavity for other objects than the one here related," (Dr. Charles Clay, *Braithwaite's Retrospect*,) basing the propriety of such operations merely upon the success of ovarian cases.

The British Medical Journals, in reviewing the cases of Dr. Charles Clay, and others, speak decidedly against the operation of gastrotomy. As the subject has become one of vital importance, and as this has been styled an American operation, I propose concluding my paper by noticing one or two points in the English Journals.

One writer, in the general scope of his paper, takes a candid and fair view of Clay's and other operations, and very properly corrects some of the statistical errors which Dr. Clay permitted himself to embrace in his report. However much it must be regretted that any member of the profession, as distinguished as Dr. Clay, should attempt to establish an operation by unfair means, or by disparaging and misrepresenting the manner of operating and success of other surgeons, still it must be equally regretted that his reviewers should place the *merits* of the major operation in juxtaposition with the errors of Dr. Clay, and thus condemn *together* what are essentially disconnected, and decry the value of the one with the same breath used in combating the other.

One of the principal objections brought forward by the British writers is *the difficulty of forming a diagnosis in cases of ovarian diseases.* "The impossibility of ascertaining either the existence of any disease of the ovaries, the real character of such disease, or the adhesions or connections which it may have originally held, or have formed during the progress of its growth, has been freely granted by every experienced physician and surgeon who has directed his attention to the subject, and is also made abundantly manifest by the cases of extirpation which have been recently recorded." (*The London and Edinburgh Monthly Journal of Medical Sciences.*) The "very impossibility of knowing beforehand the exact condition of the organs which it is proposed to extirpate, forms, in our opinion, one of the strongest arguments against the operation; and will always do so until we are furnished with some unerring means of distinguishing between simple ovarian tumours and cases in which ovarian cysts are associated with other diseases of those organs." (*The British and Foreign Medical Review.*) That there is a difficulty in diagnosis in some cases must be admitted, and in such the whole force of the argument ought peremptorily to operate. Some of the fatal cases referred to by the writers, I think would be obnoxious to this charge, and ought to exhibit more the temerity of the surgeon in undertaking ovariotomy where the diagnosis was obscure, or the malignancy of the tumour, and other circumstances, contraindicated it, than to undervalue a well-judged and well-timed operation in cases where nothing objectionable obtains. While, however, admitting the position in some cases, we do consider it untenable in others, and cannot admit that there is an *impossibility* of knowing the condition of things beforehand in *all* cases. The possibility of correct diagnosis, at least as to the *existence* of ovarian disease, and in reference to the propriety of an operation, I consider has been sufficiently proved by the many successful, and even unsuccessful cases of peritoneal section, and also by post-mortem observations where no such operation had been performed. And although errors may have occurred in certain cases, nothing less has happened in other kinds of surgery, where operations are acknowledged to be legitimate and proper. If, then, cases do occur, where doubt does not exist, ought the operation to be performed? The several successful cases,

both of the minor and major operation, and the character of the disease to be remedied, speak sufficiently in the affirmative, and the writers themselves, in such cases, would not raise an objection, if a fair inference may be drawn from the above quotations.

Another objection is *the danger of hemorrhage*. "The extent to which the incisions must be carried, and the adhesions which must be destroyed in many cases before the tumours can be removed, would lead us, *a priori*, to dread the consequences of loss of blood." (*The London and Edinburgh Monthly Journal*.) It is rather surprising that this should have been offered as a serious objection against the operation, when we consider how rare hemorrhage has been in these cases, and how perfectly easy it is to control it by the careful application of ligatures. Is there one case on record where the cause of death could be legitimately traced to hemorrhage? Even in Mr. M'Dowell's third case, and in Mr. Lizar's second case, where hemorrhage was profuse, death did not occur, and in Mr. Clay's fifth case, where death did occur, the hemorrhage, apart from other violence, was not so great as solely to account for the result. And whence is the great fear of hemorrhage *a priori*? Large and important vessels seldom exist in the pedicle of ovarian cysts and tumours, and the attachments, which the latter may have formed with the surrounding parts, when organized, are supplied with the smaller class of vessels, while the extensive incisions through the skin involve no arteries worthy of notice.

After giving details of several successful cases, it is observed: "All must, we think, agree with us in the opinion that the mere announcement that these thirteen persons recovered from the operation, would by no means suffice to enable us to estimate it aright. The sufferings endured during its performance, the pains of a protracted convalescence, and the imminent danger in which life was placed in some instances, ought all to be taken into account. The sufferings and the danger too, in these cases, were neither few nor small." (*The British and Foreign Medical Review*.) The fact, I fear, has been overlooked that in other capital operations, legitimated by time and results, all the above circumstances occur, and that suffering, pain, and danger, are necessary accompaniments. To balance this, look at the ovarian patient condemned, by the opponents to exirpation, to uninterrupted misery, to interminable sufferings, to all the agony and inconvenience of obstructed circulation, respiration, defecation and the functions of all the pelvic, abdominal and thoracic viscera; condemned to certain death by a protracted, incurable, burthensome disease, draining her system of its usual pabulum, depriving her of exercise and the pure air and light of heaven, and oppressing her with a loathsome enormous mass too great for her enfeebled, emaciated frame to carry. Thus metamorphosed, in the depth of her agony and affliction, she appeals to us for assistance, and though life may be the forfeiture, she stakes it willingly. What is to be done? Take every thing into the esti-

mate, and is not the operation not only justifiable, but sometimes criminally omitted?

It is also observed, that "there are objections, however, to the operations, far more conclusive than any which can be deduced from the inadequate nature of the testimony in its favour. Not only did six of the persons, whose ovaries were extirpated, die from the effects of the operation, but in eight instances, after the abdominal cavity had been laid open, the removal of the tumour was found impracticable, and the lives of three of these patients were sacrificed to the fruitless and ill-judged interference of the surgeon." (*Ibid.*) What capital operation, I would ask, is exempt from such a charge? The victims of the knife have been numberless in almost every branch of operative surgery: bladders have been cut for stone without finding any, legs have been amputated that ought to have been saved, hatsfuls of eyes have been destroyed without restoring vision, aneurisms have been opened believing them to be abscesses, and a variety of other malpractice must occur to the mind of every surgeon. Does it follow from this that the operations of lithotomy, amputation, cataract, and the lancing of abscesses ought to be condemned? Is fruitless, ill-judged, or ill-directed surgery in a few instances, to be adduced in condemnation of any operation? I apprehend not. Why then not place gastrotomy upon the same footing? As a new operation, undergoing a course of probation, it is perhaps equally as successful at this age of its history, as some other operations, now established, were in their early infancy, and which, even now, occasionally illustrate the improper and fruitless interference of the surgeon. Upon this principle, operative surgery would become obsolete.

Certain writers also throw out some very improper insinuations upon the motives of the younger members of the profession, who undertake what older surgeons "are reluctant to attempt." After representing this operation as exceedingly hazardous and fatal, and then accusing the young surgeon of endeavouring to advance his reputation by "exciting the astonishment of the vulgar," they must have forgotten the self-contradiction of their position, and the danger of young surgeons seeking professional *eclat* where *censure* only was to be encountered. And why thus assail the junior members of the profession? Where is the time-honoured surgeon, bending under the weight of years, and enjoying the full fruition of a successful career, that has not laid the foundation of his fame before time has *begun* to mark his temples with the frosts of age? Whence have sprung the great improvements of our art? Have they not mainly originated with men in the prime and vigour of life, before age began to enervate the mind, or routine to fix the habit? Then let it not be said that because the "aged and the timorous are reluctant to attempt" an operation, that the younger man, emboldened by assiduous investigation and new discoveries, should be censured for the innovation. The oath, "Nullius unquam hominis vitam anicipiti tentaturum experimento,"

fortunately for gastrotomy, does not include the whole of medical morality; the principle will be more complete by adding, in English, *and the life of no one should ever be sacrificed to a necessarily fatal disease when art can prevent it.* On this point the beautiful language of Hufeland is quoted: "Thine is a high and holy office, see that thou exercise it purely, not for thine own advancement, not for thine own honour, but for the glory of God, and the good of thy neighbour. Hereafter thou wilt have to give an account of it." There are sins of *omission* as well as of commission. 'The *good* of our neighbour, and our professional *duty*, always obligate us to *risk* our reputation in contributing to the one, and in properly exercising the other; and if, when relief can be afforded in a horrible and fatal disease, we are unwilling to *hazard* our fame, or take *responsibility* in consequence of danger, then indeed we prostitute a high and holy office, fail to exercise it purely, and will have to give an account of it hereafter. The same German author eloquently observes: "Der wahre Arzt soll kein anderes Interesse haben, als Gesundheit und Leben seines Kranken. Jedes andere fuehrt ihm vom wahren Wege ab, und kann fuer den Kranken die nachtheiligsten Folgen haben. Er braucht nur in irgend einen Collisionsfall zu gerathen, wobey seine Reputation oder sein Beutel in Gefahr kommt, wenn er etwas zur Erhaltung des Kranken wagt, und er wird zuverlaessig lieber den Kranken sterben lassen, als seine Reputation verlieren."* (*Makrobiotik, von Dr. Hufeland.*)

* The honest physician should have no other interest than the health and life of his patient. Every other leads him from the true path, and may result in the most injurious consequences to the sick. Should a case of difficulty arise, in which, by hazarding any thing for his patient's preservation, he might endanger either his character or his purse, he would unsafely rather let him die than sacrifice his own reputation.

